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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. |
|---|---|---|---|
| 09/362,080 | 07/27/99 | D'SOUZA H | 27757-403 |

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| EXAMINER | |
|---|---|
| EISEN, A | |
| **ART UNIT** | **PAPER NUMBER** |
| 2674 | 10 |

**DATE MAILED:** 09/26/01

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

| Office Action Summary | Application No. 09/362,080 | Applicant(s) D'SOUZA ET AL. | |
|---|---|---|---|
| | Examiner Alexander Eisen | Art Unit 2674 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☐ Responsive to communication(s) filed on _____ .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) 1-34 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-34 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 9 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

## DETAILED ACTION

1. Claims 1, 8, 12, 16, 30 and 33 have been entered as amended.

2. Claims 1-34 are pending in present application, claims 1, 8, 12, 16, 20, 25, 30 and 33 are independent claims.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 20-22, 24-27 and 29 re rejected under 35 U.S.C. 102(b) as anticipated by McManus et al. ("McManus"), US 5,479,186 (reference provided by the Applicant in IDS, paper # 6). McManus discloses a system for computing equation coefficients (column 4, lines58 – column 5, line 8) to represent an input-output color characteristic of a color display device (20), a signal generator ((22), column 2, line 50) for generating an output signal that can be used by the color display device (20) to produce a predetermined pattern on a screen (21) of said color display device (20); a general purpose computer (24) providing a plurality of first outputs to said signal generator via conductor (26) such that said signal generator incrementally changes said output signal from a first extreme to a second extreme (column 2, line 62 – column 3, line 13, column 3, lines 59-68, column 4, lines 27-39); a photometer device (28) positioned to measure the incremental brightness data for each level in order to provide said data to said general purpose computer (24); said general purpose computer correlates outputs with brightness data

and calculates a plurality of coefficients that represent the signal input to first color output relationship of said color display device (column 5, lines 9-11).

As to claims 20 and 25, McManus teaches displaying a first brightness representing the maximum brightness of the display (see col. 3, line 67; col. 5, line 64; col. 6, lines 15-19).

As to claims 21 and 26, McManus teaches storing a mathematical representation of the input-output transfer characteristics into a memory (col. 5, lines 19-21).

As to claims 22 and 27, the correlation is performed for all three basic colours (col. 4, lines 1-5).

As to claims 24 and 29, McManus teaches that a mathematical representation of transfer function is obtained by curve fitting method involving a least-square fit using polynomial function (col. 5, lines 4-18).

### *Claim Rejections - 35 USC § 103*

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1-4, 6, 7, 16-19, and 33-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over McManus in view of Narveson et al., ("Narveson"), US Patent No. 4,386,345. McManus discloses a system for computing polynomial equation coefficients to represent an input-output color characteristic of a color display device that can be used further for calculating the look-up tables converting the input signal to a color display into a color brightness displayed

on the screen of the color display device. McManus further teaches that the computer performing the task of calibration is supplied with the data, which is generated through the spectroradiographic analysis of the monitor during the manufacturing of the latter (col. 5, lines 48-67). McManus does not specifically disclose that the polynomial coefficients are stored in a data storage device or memory in said color display device. McManus rather discloses that the calculated coefficients are used for calculating look-up tables for each electron gun for consequently storing look-up tables by the computer. Narveson teaches a color cathode ray tube having a "CRT personality PROM" containing the color/brightness characteristics of this particular CRT, input-output transfer characteristic included, which have been prepared during the CRT assembly (see abstract, col. 4, lines 3-38; col.4, line 57 – col.5, line 23). It would have been obvious to one of ordinary skill in the art at the time when the invention was made that storing data that is used in computing is inherent to a computing process and in this sense it is understood that the coefficients are stored in some storage device, the polynomial function itself is represented in said look-up tables and they are stored by the computer according to McManus. It also would be obvious to one of ordinary skill in the art at the time of the invention to use the teaching of Haverson in the display calibration system of McManus in the part that transfer characteristic data of a particular display is being stored in the memory of that display, which is integral part of the display, so that it would require calibration each time of the using it in different computer system (Narveson, col. 4, lines 20-26).

As to claim 7, it is well known in the art that color correction is applicable to a color display of any type, be it VGA MultiSync CRT or LCD, or any other type, as long as it is used to display colors.

As to claim 19, it is obvious that data can be stored in any type of memory capable of storing digital data, DDC (dual-dielectric cells) memory devices included, and since it would not bring any unexpected results it would have been obvious to one of ordinary skills to use it.

7. Claims 8-13, 15 and 30-32 are rejected under 35 U.S.C. 103(a) as obvious over McManus. McManus discloses a system for computing polynomial equation coefficients to represent an input-output color characteristic of a color display device. McManus further teaches that the computer performing the task of calibration is supplied with the data, which is generated through the spectroradiographic analysis of the monitor during the manufacturing of the latter (col. 5, lines 48-67). McManus does not specifically disclose that the polynomial coefficients are communicated to said color display device for storage in a data storage device associated with said color display device. McManus rather discloses that the calculated coefficients are used for calculating look-up tables for each electron gun for consequently storing look-up tables by the computer into a memory of the device driver (22) via the communication link (26). It is understood that the memory, wherein the look-up tables are stored is associated with that particular display and only pertinent to that particular display. As to mathematical representation of transfer function, look-up tables represent input-output transfer functions just as well as any other well-known methods, such as curves and coefficients. It would have been obvious to one of ordinary skill in the art at the time when the invention was made that storing data that is used in computing is inherent to a computing process and in this sense it is understood that the coefficients are stored in some storage device, the polynomial function itself is represented in said look-up tables and they are stored by the computer according to McManus.

As to claim 10, it is well known in the art that color characteristics are changing with the temperature and most of the measurements in the world of testing are taken after the device under test is warmed up and its temperature is stabilized.

As to claim 11, it is obvious that data processed and stored in the computer system of McManus can be stored in any type of memory capable of storing digital data, DDC (dual-dielectric cells) memory devices included, and since it would not bring any unexpected results it would have been obvious to one of ordinary skills to use it.

8. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over McManus in view of Narveson and further in view of Minato et al., ("Minato"), US 4,379,292. McManus discloses a system for computing polynomial equation coefficients to represent an input-output color characteristic of a color display device. Narveson teaches a color cathode ray tube having a "CRT personality PROM" containing the color/brightness characteristics of this particular CRT, input-output transfer characteristic included, which have been prepared during the CRT assembly. Neither of the above disclose expressly that a third order polynomial equation is used for representation, which predicts the brightness to within 0.3 foot-Lamberts for each input signal. McManus rather teaches that acceptable curve fitting results are obtained when the degree of the polynomial is in order from 5 to 7. Minato teaches a luminance characteristic curves for a color display that can be presented by a polynomial equations of a third order (see FIG. 1 and equation (19) in column 5, line 10. It would have been obvious to one of ordinary skill in the art that color brightness characteristic for each input signal can be presented by a plurality of coefficients utilized in a third order polynomial equation, and that the order can be arbitrarily picked up by a designer depending on required accuracy, 0.3 fL included.

9. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over McManus in in view of Minato. McManus discloses a system for computing polynomial equation coefficients to represent an input-output color characteristic of a color display device. McManus does not discloses expressly that a third order polynomial equation is used for representation, which predicts the brightness to within 0.3 foot-Lamberts for each input signal. McManus rather teaches that acceptable curve fitting results are obtained when the degree of the polynomial is in order from 5 to 7. Minato teaches a luminance characteristic curves for a color display that can be presented by a polynomial equations of a third order (see FIG. 1 and equation (19) in column 5, line 10. It would have been obvious to one of ordinary skill in the art that color brightness characteristic for each input signal can be presented by a plurality of coefficients utilized in a third order polynomial equation, and that the order can be arbitrarily picked up by a designer depending on required accuracy, 0.3 fL included.

10. Claims 23 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over McManus in view of Sato et al., ("Sato"), US 4,989,072. McManus discloses a system for computing polynomial equation coefficients to represent an input-output color characteristic of a color display device. McManus does not disclose that during the test a first number of pixels is illuminated and a second number of pixels is not illuminated. McManus discloses, however, that measurements are done for every gun associated with a particular color, and it would be understood by one of ordinary skill in the art that measurements representing each gun can only be taken separately, while a group of pixels of a first color is being illuminated and the groups of other colors are not illuminated. Sato teaches an apparatus for testing and adjusting a color CRT tubes having a pattern generator for generating different testing patterns including sequentially

displaying frames of primary color in the order of green, red and blue (column 11, lines 7-18; column 12, line 64 – column 13, line 7). It would have been obvious to one of ordinary skill in the art to illuminate pixel of one color and not of the other colors when measuring luminance characteristics of primary color in the apparatus of McManus in sequence as taught by Sato.

### *Response to Arguments*

11. Applicant's arguments with respect to non-amended independent claims 20 and 25 filed on 02 July 2001 have been fully considered but they are not persuasive. McManus teaches displaying a first brightness representing the maximum brightness of the display (see col. 3, line 67; col. 5, line 64; col. 6, lines 15-19).

12. Applicant's arguments with respect to claims with respect to amended independent claims 1, 8, 12, 16, 30 and 33 have been considered but are moot in view of the new ground(s) of rejection.

### *Conclusion*

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Alexander Eisen** whose telephone number is **(703) 306-2988**. The examiner can normally be reached on M-F (8:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Richard A. Hjerpe** can be reached on **(703) 305-4709**.

Any response to this action should be **mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or **faxed to:**

**(703) 872-9314 (for Technology Center 2600 only).**

Hand-delivered responses should be **brought to:** Crystal Park Two, 2121 Crystal Drive, Arlington, Virginia, Sixth Floor Receptionist.

Any inquiry of a general nature or relating to the status of this application or proceeding should be **directed to:** Technology Center 2600 Customer Service Office, whose telephone number is **(703) 306-0377**.

Alexander Eisen
September 20, 2001

RICHARD HJERPE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600